

III. REMARKS

Claims 1, 10, 19-20 and 40 have been amended. Claims 43-71 have been added. Claims 1-38 & 40-42 have been rejected under 35 U.S.C. 102 as being anticipated by Mizokawa et al. (hereinafter Mizokawa). The Applicants respectfully disagree.

Claim 1 calls for a transport chamber capable of holding an isolated atmosphere isolated from outside atmosphere exterior to the transport chamber. Mizokawa does not anticipate the features recited in claim 1. In Figs. 3-10, Mizokawa discloses a wafer processing system with processing apparatus A-Z and chamber 14. Inside the chamber 14, a mobile element 12 is provided and a guide rail 11 is provided for the mobile element. The wafer processing apparatus A-Z are connected by means of ducts 16A-16Z to the chamber 14 that allow wafers to be transferred between chamber 14 and respective processing apparatus A-Z. In paragraph 32, lines 3-10, Mizokawa discloses that the inside of the chamber is established as a local clean room with higher cleanliness than the outside. For this, the chamber 14 is provided with fan filter units (FFU) 40 (see also Fig. 4) that send a large amount of (very) clean air into the chamber 14. In order for the fan units to operate and send a large amount of air into the chamber 14, a substantially equivalent air mass already existing in the chamber, must be forced/exhausted out of the chamber (otherwise the fans 40 would be usable to send clean air into the chamber). To allow air/atmosphere inside the chamber 14 to vent/exhaust outside the chamber, it is inherent (i.e. necessary) that the Mizokawa chamber 14 have vents/openings through which the atmosphere in the chamber can vent to the outside. Hence, the atmosphere inside the chamber 14 in Mizokawa must communicate with the outside atmosphere. By comparison, claim 1 recites that

the transport chamber is capable of holding an isolated atmosphere, isolated from the outside atmosphere exterior to the chamber. Nowhere is this disclosed in Mizokawa. The atmosphere inside the chamber 14 in Mizokawa necessarily communicates with the outside, and nowhere is there any mention whatsoever in Mizokawa that the transport chamber is capable of holding an isolated atmosphere, isolated from outside atmosphere exterior to the transport chamber. Thus, Mizokawa, fails to anticipate the features recited in claim 1. Claims 1-9 are patentable over the cited prior art and should be allowed.

Claim 2 is dependent on claim 1 and should be allowed for the aforementioned reasons. Further, claim 2 calls for the other module communicably connected to the transport chamber to be a load lock module. Mizokawa fails to disclose this. Mizokawa discloses merely processing chambers A-Z connected via ducts 16A-16Z to the transport chamber 14. The bare disclosure of "processing" chambers in Mizokawa does not mean that any of the chambers A-Z in Mizokawa is a load lock. Ducts 16A-16Z through which the chamber 14 communicates with the processing chambers A-Z in Mizokawa, do not appear to be closable (indeed there is no mention or suggestion whatsoever anywhere in Mizokawa that ducts 16A-16Z may be closed, and the Examiner appears to agree with this in section 14 of the action) much less be load locks as called for in claim 2. Claim 2 is patentable over the cited prior art. Similarly claim 3 is patentable over the cited prior art.

Claim 9 is dependent on claim 1 and is allowable for the aforementioned reasons. Further, claim 9 recites that the linear motor is connected to the arm for rotating the arm relative to the base and for articulating the arm. Mizokawa fails utterly to

disclose this. The chamber in Mizokawa discloses a linear motor 41. However, linear motor 41 operates exclusively to move the mobile element 12 along the linear path. Linear motor 41 in Mizokawa does not appear capable in any way to rotate the arm 45 relative to the rest of the mobile element or to articulate the arm 45 in any way. Indeed, when the motor 41 in Mizokawa moves the mobile element, the arm 45 borne by the mobile element is also moved. However, this is not what claim 9 calls for. Rather, claim 9 calls for the linear motor being connected to the arm (on the transport vehicle) for rotating the arm relative to the base (of the vehicle) and for articulating the arm. Nowhere is this disclosed in Mizokawa. Claim 9 is patentable and should be allowed.

Claim 10, similar to claim 1, calls for a linear transport chamber capable of holding an isolated atmosphere therein, the isolated atmosphere being isolated from atmosphere outside the chamber. As noted before with reference to claim 1, the atmosphere inside the chamber 14 in Mizokawa must communicate with the outside atmosphere at least when the fans 40 providing the clean room condition within (by feeding air into) the chamber 14 are operating. Nowhere is there any disclosure in Mizokawa that the atmosphere inside the chamber is capable of being isolated from outside atmospheres, as called for in claim 10. Further, claim 10 recites that the chamber has at least one of a minimum chamber width or minimum transfer opening width for the given reach of the substrate transfer arm. Mizokawa says absolutely nothing about this. Claims 10-19 are patentable over the cited prior art and should be allowed.

Claim 11 is dependent on claim 10 and should be allowed for the reasons noted above. Further, claim 11 calls for at least one of

the substrate transfer openings in the chamber (through which substrates are transferred between chamber and processing module) having a door that closes and opens the opening. Nowhere does Mizokawa disclose a door that closes or opens an opening through which substrates are transferred between chamber 14 and any of the processing chambers A-Z. Ducts 16A-16Z do not appear closable. In section 14 of the Action, the Examiner states that Mizokawa "do[es] not prescribe (i.e. does not specify?) an opening less door (i.e. a door without openings?) where an environment separate from the processing chamber A, B, C, D necessitates sealing the environment". The meaning of the Examiner's statement is not clear to the Applicants, but if the Examiner means that, though Mizokawa fails to disclose a door closing the duct (opening) through which the transport chamber 14 and processing chambers A-Z communicate, nevertheless the presence of processing chambers that communicate with the transport chamber necessitates that the processing chambers be sealed from the transport chamber, the Applicant notes that the Examiner is in error. Mizokawa fails to disclose the atmosphere for processes in processing apparatus A-Z in any way, and merely discloses that the processing apparatus A-Z communicate with the chamber. By way of example, the processes carried out in apparatus A-Z in Mizokawa may be of a type (e.g. wafer cleansing, paragraph 0008) that can be carried out in a clean room environment, such as exist in the chamber 14 and is communicably shared with the apparatus, and hence, there would be no need in such case for doors to close openings. In any event, the bare mention of processing apparatus communicating with a chamber, held under clean room conditions, does not by itself necessitate doors for closing the communication paths between chamber and processing apparatus. Claim 11 is patentable and should be allowed.

Claim 12 calls for the transport chamber being isolated from an environment in at least one processing module. This is not disclosed in Mizokawa, and it is not necessary in Mizokawa that any of the processing apparatus A-Z be isolated from the chamber or vice versa.

Claim 14 recites that when the opening is closed, the transport chamber has an environment different than the other module. As noted before, Mizokawa fails to disclose that the opening (through which chamber 14 and process apparatus communicate) is closed, much less that the transport chamber has an environment different than a process apparatus when the opening is closed.

Claim 17 recites that the linear motor is connected to the transport vehicle for effecting multi-axis movement of the transfer arm. By comparison, the linear motor 41 can move the mobile element 12, and hence robot 13 back and forth (along the linear guide rail) (i.e. uni-axial movement not multi-axis movement).

Claim 20 recites that the first chamber is capable of being isolated from outside atmosphere, that another chamber is communicably connected to the first via a closable opening, and that the closable opening is configured to enable the transport vehicle to transit between the first and other chamber through the opening. As noted before, Mizokawa fails to disclose a chamber (that movably supports the mobile element) that is capable of being isolated from outside atmosphere. Also, in Mizokawa there is no other chamber communicably connected to the first via a closable opening, much less a closable opening sized to allow the mobile element 12 to transit (i.e. passage through or across) between the first and other chamber. The chamber 14 in Figs. 3-9 of Mizokawa is but a single slot without any

closable openings much less closable openings sized to allow the mobile element to transit from one chamber to another chamber through the opening. In Fig. 10, chambers 14AF, 14GL, 14MS and 14TZ have openings to communicate with center chamber 101. The openings are not closable, and are not configured to enable the mobile elements 12AF, 12GL, 12MS and 12TZ to transit from one chamber to another. The mobile elements 12AF, 12GL, 12MS and 12TZ cannot transit from one chamber to another through the openings between the chambers. Claims 20-38 are patentable and should be allowed.

Claim 40 calls for several linear travel paths between opposing walls of the transport chambers tube, the first vehicle extending across from proximate one opposing wall to proximate the other, and that the first and second vehicles can move past one another between the opposing walls when the first vehicle is using one path and the second vehicle is using the other path. This is not disclosed in Mizokawa. In Fig. 9, the chamber 14 has two rails 11. However, neither mobile element 12AM, 12NZ is wide enough to extend across the chamber from proximate one wall to proximate the opposite wall as called for in claim 40. Claims 40-42 are patentable over the cited prior art and should be allowed.

Claims 43-71 have been added claiming further features of the Applicants' invention as described in the specification and shown in the drawings.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should

any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Enclosed is a check in the amount of \$2,050.00 for the fee for additional claims added. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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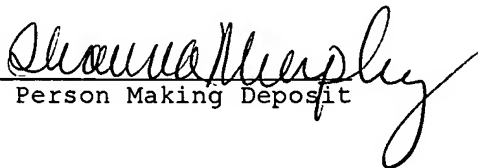
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